

88. (Currently amended) A method for forming a solder composition, comprising:

providing a solder alloy, wherein the alloy is substantially free of lead, wherein the alloy includes tin (Sn), silver (Ag), and copper (Cu), wherein the tin has a weight percent concentration in the alloy in a range of 90% to 95%, wherein the silver has a weight percent concentration in the alloy not exceeding about 2.8%, and wherein the copper has a weight percent concentration in the alloy not exceeding about 1.5%;

melting the alloy by heating the alloy; and

solidifying the melted alloy by cooling the melted alloy at a cooling rate, wherein the cooling rate is at least 1.2 °C/sec.

89. (Canceled)

90. (Previously presented) The method of claim 88, wherein the cooling rate is in a range of about 1.2 °C/sec to about 3.0 °C/sec.

91. (Previously presented) The method of claim 88, wherein the alloy further includes bismuth at a weight percent concentration in the alloy from 0.1% to about 0.2%.

REMARKS

The Examiner allowed claims 1, 5-6, 9-10, 29-61, 63-64, 67-73, 75, 77, and 83. The Examiner objected to claims 12, 18, 20, 25, 81, 86 and 89-91 as being dependent upon a rejected

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base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants gratefully acknowledge the Examiner's indication of allowable subject matter.

Applicants have amended the claims herein to claim allowable subject matter, in accordance with the Examiner's indication of allowable subject matter, as follows:

Claim 1 was amended to correct a typographical error.

The limitations of allowable claim 18 have been incorporated into independent claim 11 from which claim 18 depends. Thus, Applicants respectfully submit that claim 11 as amended herein is in condition for allowance. Since claims 12-17 and 19-28 depend from claim 11, Applicants contend that claims 12-17 and 19-28 are likewise in condition for allowance.

Allowed claim 83 has been rewritten in independent form, incorporating the limitations of independent claim 1 from which claim 83 depends. Thus, Applicants respectfully submit that claim 83 as amended herein is in condition for allowance. Since claim 82 depends from claim 83, Applicants contend that claim 82 is likewise in condition for allowance.

The limitations of allowable claim 86 have been incorporated into independent claim 84 from which claim 86 depends. Thus, Applicants respectfully submit that claim 84 as amended herein is in condition for allowance. Since claims 85 and 87 depend from claim 84, Applicants contend that claims 85 and 87 are likewise in condition for allowance.

The limitations of allowable claim 89 have been incorporated into independent claim 88 from which claim 89 depends. Thus, Applicants respectfully submit that claim 88 as amended herein is in condition for allowance. Since claims 90-91 depend from claim 88, Applicants contend that claims 90-91 are likewise in condition for allowance.

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The Examiner rejected claims 84-85 under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Sakai (US Patent 6,077,477).

The Examiner rejected claims 11, 13-15, 17, 19 and 21 under 35 U.S.C. §102(b) as allegedly being anticipated by Tanaka (Japanese publication 2001-138088).

The Examiner rejected claims 80, 82, 84 and 87-88 under 35 U.S.C. §102(b) as anticipated by Tulman (US Patent 4,806,309).

The Examiner rejected claims 80, 84 and 87-88 under 35 U.S.C. §102(a) as anticipated by Takeda (US Patent 6,228,322).

The Examiner rejected claims 80, 82, 84 and 87-88 under 35 U.S.C. §102(a) as anticipated by Kusabiraki (US 6,229,248).

The Examiner rejected claims 80, 82, 84 and 87-88 under 35 U.S.C. §102(b) as anticipated by, or in the alternative under 35 U.S.C. §103 as obvious over Seelig (US Patent 5,405,577).

The Examiner rejected claims 80, 82, 84 and 87-88 under 35 U.S.C. §102(b) as anticipated by, or in the alternative under 35 U.S.C. §103 as obvious over Gonya (US Patent 5,393,489).

The Examiner rejected claims 80, 82, 84 and 87-88 under 35 U.S.C. §102(b) as anticipated by, or in the alternative under 35 U.S.C. §103 as obvious over Achari (US Patent 5,863,493).

The Examiner rejected claims 11, 13-17, 21-24, 26-28 and 84-85 under 35 U.S.C. §103(a) as allegedly being unpatentable over applicant's disclosure of the prior art in view of Sakai (US Patent 6,077,477).

The Examiner rejected claims 11, 13-17, 19 and 21 under 35 U.S.C. §103(a) as allegedly being unpatentable over applicant's disclosure of the prior art in view of Tanaka (Japanese publication 2001-138088).

In light of the amendments herein which attempt to capture only allowable and allowed subject matter, as indicated by the Examiner, Applicants respectfully contend that the rejections herein under 35 U.S.C. §102(b) and 35 U.S.C. §103(a) are moot.

If the Examiner should determine an error herein, or anything else that would prevent this docket from receiving a Notice of Allowance, Applicants would appreciate it if the Examiner would contact Applicants' Representative Jack Friedman by telephone at the telephone number indicated *infra* so that Applicants could make the appropriate correction(s).

CONCLUSION

Based on the preceding arguments, Applicants respectfully believe that all pending claims and the entire application meet the acceptance criteria for allowance and therefore request favorable action. If the Examiner believes that anything further would be helpful to place the application in better condition for allowance, Applicants invites the Examiner to contact Applicants' representative at the telephone number listed below. The Director is hereby authorized to charge and credit Deposit Account No. 09-0457.

Date: 05/04/2004

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